WHAT IS CLAIMED IS:

1. A method for providing synchronization in a binary data stream, comprising:

receiving a binary data stream;

generating a synchronization mark having at least one isolated peak into at least one point in the data stream;

forming a encoded data stream by concatenating the synchronization mark with the received binary data; and

during decoding, detecting the synchronization mark based on error propagation occurring adjacent to the at least one isolated peak of the synchronization mark.

2. The method of claim 1, further comprising:

concatenating the received binary data stream with a known pattern.

3. The method of claim 2, wherein the known pattern comprises a VFO pattern having a sequence of "10."

4. The method of claim 3, wherein the synchronization mark is determined by concatenating a synchronization symbol with the VFO pattern.

5. The method of claim 3, wherein forming the encoded data stream by concatenating the synchronization mark with the received binary data further comprises:

concatenating the synchronization mark with at least one bit from the VFO pattern to obtain a modified synchronization pattern having more bits than the synchronization mark.

6. The method of claim 1, further comprising:

concatenating the received binary data stream with at least one resynchronization mark, wherein the at least one resynchronization mark is located in the middle of the received binary data stream and the resynchronization mark and the encoded binary data are different.

7. The method of claim 6, further comprising:

detecting the at least one resynchronization mark to verify that the decoding process is operating correctly.

8. The method of claim 1, wherein a data section of the received binary data is encoded at a rate of m/n.

9. The method of claim 8, wherein the synchronization mark comprises 01000100001010001 and the m/n encoding rate comprises a 16/17 encoding rate.

10. The method of claim 8, wherein the data section is encoded at an encoded rate of m/n and the resynchronization mark comprises a fixed plurality of bits equivalent to bytes of the encoded binary data.

11. The method of claim 10, wherein the resynchronization mark comprises 10000000001000000000001000000000001 and the m/n rate encoded bit sequence comprises a 16/17 rate coded sequence.

12. The method of claim 1, wherein detecting the synchronization mark comprises detecting an even number of 1s between peaks and the error pattern "101" around a peak.

13. A system for providing synchronization in a binary data stream, comprising:

means for receiving a binary data stream;

means for generating a synchronization mark having at least one isolated peak into at least one point in the data stream;

means for forming a encoded data stream by concatenating the synchronization mark with the received binary data; and

means for during decoding, detecting the synchronization mark based on error propagation occurring adjacent to the at least one isolated peak of the synchronization mark.

14. The system of claim 13, further comprising:

means for concatenating the received binary data stream with a known pattern.

15. The system of claim 14, wherein the known pattern comprises a VFO pattern having a sequence of "10."

16. The system of claim 15, wherein the synchronization mark is determined by concatenating a synchronization symbol with the VFO pattern.

17. The system of claim 15, wherein the means for forming the encoded data stream by concatenating the synchronization mark with the received binary data further concatenates the synchronization mark with at least one bit from the VFO pattern to obtain a modified synchronization pattern having more bits than the synchronization mark.

18. The system of claim 13, further comprising:

means for concatenating the received binary data stream with at least one resynchronization mark, wherein the at least one resynchronization mark is located in the middle of the received binary data stream and the resynchronization mark and the encoded binary data are different.

19. The system of claim 18, further comprising:

means for detecting the at least one resynchronization mark to verify that the decoding process is operating correctly.

20. The system of claim 13, wherein a data section of the received binary data is encoded at a rate of m/n.

21. The system of claim 20, wherein the synchronization mark comprises 01000100001010001 and the m/n encoding rate comprises a 16/17 encoding rate.

22. The system of claim 20, wherein the data section is encoded at an encoded rate of m/n and the resynchronization mark comprises a fixed plurality of bits equivalent to bytes of the encoded binary data.

23. The system of claim 22, wherein the resynchronization mark comprises 10000000001000000000001000000000001 and the m/n rate encoded bit sequence comprises a 16/17 rate coded sequence.

24. The system of claim 13, wherein the means for detecting the synchronization mark detects an even number of 1s between peaks and the error pattern "101" around a peak.

25. The system of claim 13, further comprising:

a Input/Output device, wherein the system for providing the synchronization is implemented in the I/O device.

26. The system of claim 25, wherein the I/O device comprises a magnetic tape drive.

27. An article of manufacture including code for providing synchronization in a binary data stream, wherein the code causes operations to be performed comprising:

receiving a binary data stream;

generating a synchronization mark having at least one isolated peak into at least one point in the data stream;

forming a encoded data stream by concatenating the synchronization mark with the received binary data; and

during decoding, detecting the synchronization mark based on error propagation occurring adjacent to the at least one isolated peak of the synchronization mark.

28. The article of manufacture of claim 27, further comprising:

concatenating the received binary data stream with a known pattern.

29. The article of manufacture of claim 28, wherein the known pattern comprises a VFO pattern having a sequence of "10."

30. The article of manufacture of claim 29, wherein the synchronization mark is determined by concatenating a synchronization symbol with the VFO pattern.

31. The article of manufacture of claim 29, wherein forming the encoded data stream by concatenating the synchronization mark with the received binary data further comprises:

concatenating the synchronization mark with at least one bit from the VFO pattern to obtain a modified synchronization pattern having more bits than the synchronization mark.

32. The article of manufacture of claim 27, further comprising:

concatenating the received binary data stream with at least one resynchronization mark, wherein the at least one resynchronization mark is located in the middle of the received binary data stream and the resynchronization mark and the encoded binary data are different.

33. The article of manufacture of claim 32, further comprising:

detecting the at least one resynchronization mark to verify that the decoding process is operating correctly.

34. The article of manufacture of claim 27, wherein a data section of the received binary data is encoded at a rate of m/n.

35. The article of manufacture of claim 34, wherein the synchronization mark comprises 01000100001010001 and the m/n encoding rate comprises a 16/17 encoding rate.

36. The article of manufacture of claim 34, wherein the data section is encoded at an encoded rate of m/n and the resynchronization mark comprises a fixed plurality of bits equivalent to bytes of the encoded binary data.

37. The article of manufacture of claim 36, wherein the resynchronization mark comprises 10000000001000000000001000000000001 and the m/n rate encoded bit sequence comprises a 16/17 rate coded sequence.

38. The article of manufacture of claim 27, wherein detecting the synchronization mark comprises detecting an even number of 1s between peaks and the error pattern "101" around a peak.